

Vertical Exaggeration ~87x

Topographic profile for A-A'

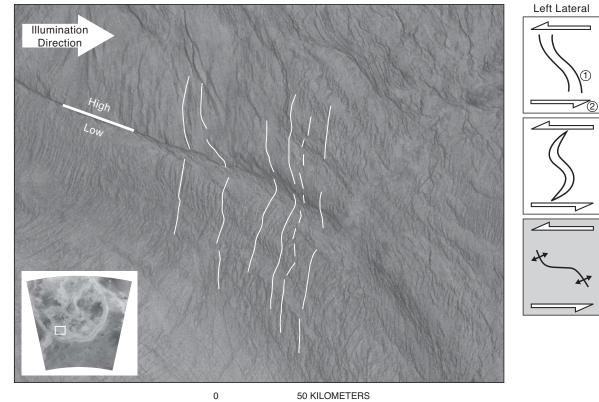


Figure 7. Inverted left-look SAR image of the southwestern tectonomagmatic center, TMa; inset shows location within V–48 quadrangle. White lines highlight lineaments that appear to change trend as they cross a ridge. Deflection may be explained solely by radar artifacts with the westward "translation" of lineaments that sit upon the high to the north. Illustrations to right show predicted patterns of lineaments for both left-lateral and right-lateral simple shear deformation of preexisting lineaments (top), extensional structures formed coincident with shear (middle), and contractional structures formed coincident with shear (bottom). Gray boxes indicate geometries that are inconsistent with the lineament patterns shown in the SAR image. The two white boxes show interpretations that might be consistent with the SAR data (left-lateral shear), assuming simple shear across the break in slope (as interpreted by Brown and Grimm [1995].) Brown and Grimm (1995) call for right-lateral simple shear across this region within the context of the subduction zone

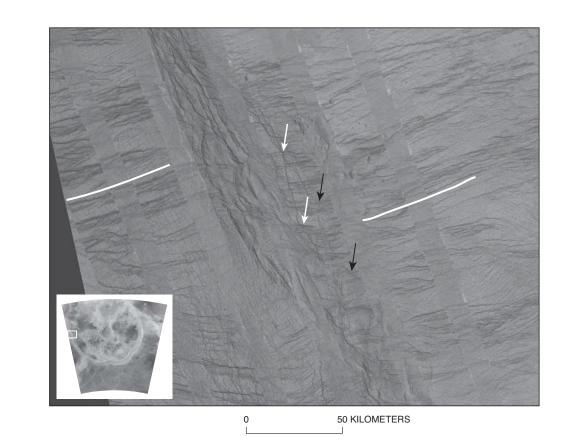


Figure 8. Inverted left-look SAR image of western Artemis Chasma; inset shows location within map area. The approximately 10 km wide diagonal stripes in the SAR data represent data gaps in left-look SAR filled with lower resolution right-look SAR data. White lines indicate major trend of lineaments that define shallow troughs. Apparent right-lateral offset of trough lineaments across the chasma likely reflects shortening across the chasma, rather than true right-lateral displacement across the chasma.

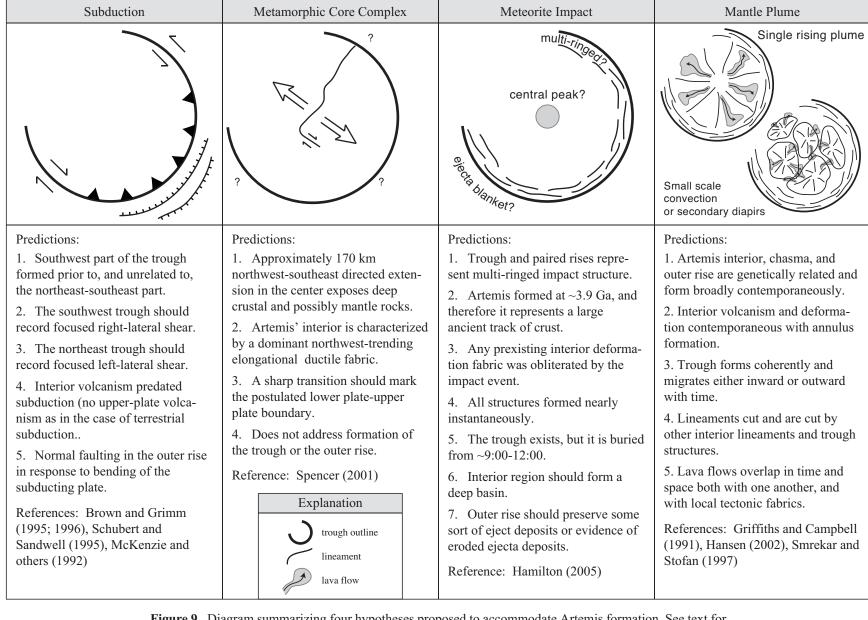
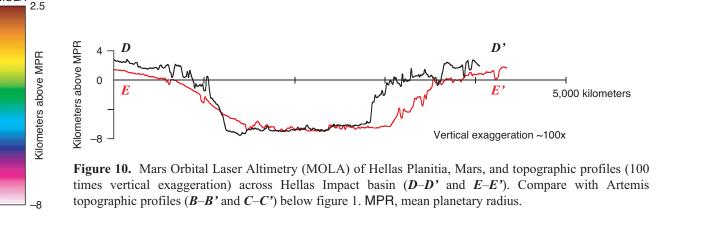


Figure 9. Diagram summarizing four hypotheses proposed to accommodate Artemis formation. See text for discussion.



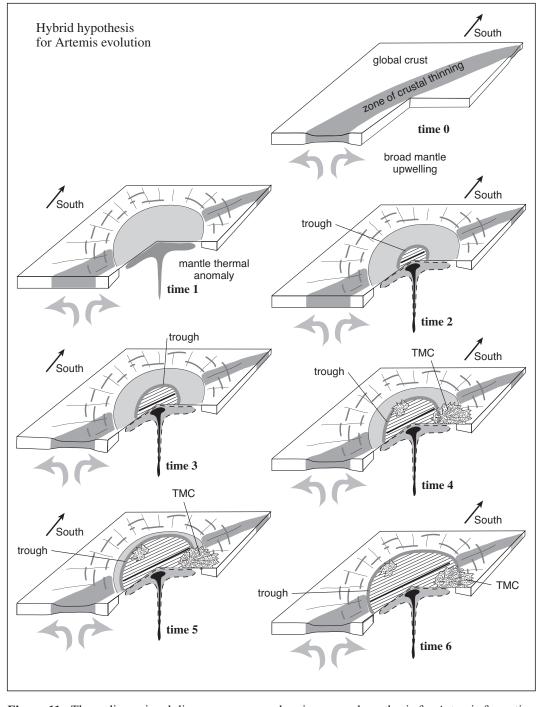


Figure 11. Three-dimensional diagram sequence showing a new hypothesis for Artemis formation and evolution that combines aspects of other hypotheses. Diagram oriented to look southward across Artemis. TMC, tectonomagnetic center. See text for discussion.

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